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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,922	06/13/2001	Karin Angela Hing	HING3001/REF	8656
7590		01/10/2008	EXAMINER	
Bacon & Thomas		HOFFMANN, JOHN M		
625 Slaters Lane				
4th Floor		ART UNIT		
Alexandria, VA 22314		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No. 09/787,922	Applicant(s) HING ET AL.	
Office Action Summary	Examiner John Hoffmann	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-27 and 32-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-27 and 32-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 11/26/2007 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4-27, 32-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 6: it is unclear if the first comma signifies an 'and' or "or" or if it means the forming step means forming a ceramic slip and forming an organic binder in a liquid carrier. Claim 1 as previously presented had an "and" in the series of claim 1, however in the amendment of claim 1/29/2007 applicant deleted the "and" - thus it is unclear if applicant intended for the original implied "and" to remain. As examiner understands it, conventional usage of the 'comma' dictates that the meaning of present step a) is that the comma means "and forming" the organic binder.

Step a) indicates that the a surfactant "is present" – it is unclear if it means it must be present in the mixture, or can it be in the general vicinity – e.g. in a bottle in a cabinet.

Step d): there is no/confusing antecedent basis for "the ceramic foam".

Claim 40 is indefinite for the same reasons that claim 1 is.

Claim 2: there is confusing antecedent basis for "foaming": it is unclear if it is in addition to the foaming of claim 1, or if it requires an addition foaming step. The same applies to claim 4.

Claim 4: the term "and/or" makes the claim confusing as to what is required.

Claim 6 is not understood: claim 1 already stipulates the particulate is biocompatible. One would not be able to ascertain whether claim 6 serves to further limit claim 1, or if it remains by accident.

Claim 7: the term "AW-glass" is indefinite as to its meaning. Examiner could not find any definition or explanation for this term in the present application or via and EAST text search. This is deemed to be a prima facie showing that one would not be able to ascertain what is meant by the term. The burden is now on applicant to demonstrate that one would be able to understand what is meant by the term. Also, the term "substituted-hydroxyapatite" is indefinite as to its meaning. In its broadest sense,

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anything could be substituted for hydroxyapatite, thus the claim can encompass any material. The claim is vague as to what can be substituted for the hydroxyapatite. Examiner could find no disclosure of this feature in the specification. Examiner could find no relevant mention of such in the Office's EAST database, and thus makes a rebuttable finding that the term has no art-recognized meaning.

Claim 12: the term "w/v %" is indefinite as to its meaning. It is unclear if the "/" means "or" as it does in claim 4. If the term is to mean weight: volume % - it is not stated what the units of the weight or the units of the volume are. Is it pounds/pints, gram/liter, tons/cubic yard or what. The same applies to claims 13-15.

Claim 17: there is confusing antecedent basis for "burn out" – it is unclear if it is the same or different from the "substantially" burn out. There is no antecedent basis for "the foamed carrier slip". Other claims have the same problem and thus are indefinite for the same reason.

There is confusing antecedent basis for "The foamed ceramic slip" of claim 18: it is unclear if it is the same thing as the foamed ceramic slip material.

Claims 19-20: there is no antecedent basis for "the concentration" and "the percentage", and confusing antecedent basis for "binder" of line 3. It is noted that since the claims require evaporation, the concentration will not be constant – there would be numerous concentrations. It is unclear if the binder is the organic binder.

Claim 23 and 41: there is no antecedent basis for "the amount", and "the milling media"; there is confusing antecedent basis for "ceramic particulate" and "mill-foaming"

It is unclear if the sintering of claim 24 is the sintering of claim 23 – or if it is an additional sintering. In other words: there is confusing antecedent basis for "sintering".

Claims 26 and 38: there is no antecedent basis for "the ceramic" and "the theoretical density".

There is confusing antecedent basis for "ceramic particulate" in claim 36.

There is confusing antecedent basis for "bulk density" of claim 37.

There is confusing antecedent basis for "strut density" of claim 38.

There is confusing antecedent basis for "modal pore size" of claim 39.

Claim Rejections - 35 USC § 103

Claims 1, 4-27, 32, 33 and 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/04013 in view of Oishi 5,895,897 and optionally in view of Fischer "Colloidal Dispersions".

See the prior Office action for the manner in which the art is applied.

Claims 2 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/04013 in view of Oishi and optionally in view of Fischer "Colloidal Dispersions". as applied to claims 1, 4-27, 32, 33 and 35-39 above, and further in view of Wu, 5656562 for the reasons as set forth in the Office action of 10/11/02 .

Claims 2, 40 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/04013 in view of Oishi and optionally in view of Fischer "Colloidal

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Dispersions” as applied to claims 1, 4-27, 32, 33 and 35-39 above, and further in view of Nukada 5395722 for the reasons set forth in the Office action of 3/25/2003.

Response to Arguments

Applicant's arguments filed 11/26/2007 in the Reply Brief have been fully considered but they are not persuasive.

It is asserted that reference which shows that the terms ‘AW glass-ceramic’ and ‘w/v %’ are definite and that evidence is provided to support such. Examiner can find no such evidence in the response. As to an EAST system requirement – there is no requirement. Such was merely to show that Examiner made an effort to determine whether the term was definite. The inability of Examiner to determine the term creates a rebuttable finding of indefiniteness. Since Examiner could not find out what the term means, it is presumed that one of ordinary skill would not be able to find out what the term means.

Applicant again refers to example 1 of page 16 for the term “w/v %”. Examiner again can find nothing which references this. Again Applicant is encouraged to point to the specific page and line number and explain how it supports Applicant's position.

It is argued that claim 1 differs from WO/9304013 by virtue of the foaming of the slip with a ball mill. This is not very relevant: the secondary reference provide the requisite teachings regarding the use of ball mills.

It is further argued that claim 1 differs from WO/9304013 by virtue of the ceramic foam is a macro porous foam having an "open foam structure". It is noted that only the preamble refers to this structure.

MPEP 2111.02 Effect of Preamble

The determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case; there is no litmus test defining when a preamble limits the scope of a claim. *Catalina Mktg. Int'l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002). See *id.* at 808-10, 62 USPQ2d at 1784-86 for a discussion of guideposts that have emerged from various decisions exploring the preamble's effect on claim scope, as well as a hypothetical example illustrating these principles.

The determination of whether preamble recitations are structural limitations or mere statements of purpose or use "can be resolved only on review of the entirety of the [record] to gain an understanding of what the inventors actually invented and intended to encompass by the claim." *Corning Glass Works*, 868 F.2d at 1257, 9 USPQ2d at 1966. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999).

It is noted that step d) indicates that the sintering is optional. One would understand that unsintered material would not be "a synthetic bone material". For example, see col. 8, lines 3-7 of Harle 5769897 which indicates that one conventionally obtains required strength and density by sintering. Applicant's own page 9, lines 6-8 also indicates that the microstructure control is effected during the sintering. Since the body of claim 1 clearly indicates that the process does not require sintering, one would immediately realize that the synthetic bone material is not actually required – thus one reads the preamble more as an intended use.

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Moreover, as per at least page 10 of WO 93/04013, the process is used to make filters another bodies that clearly have a high degree of connectivity. Clearly, one would be motivated to make the pore size as big or small as desired, depending upon what is being filtered.

From MPEP 2144.04

A. Changes in Size/Proportion

In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).

In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

As to the argument that one would not be motivated for a person to look elsewhere for alternative foaming techniques. The relevance of this is not understood - nor is any pointed out. The rejection is not based on any assertion that one would be motivated to look elsewhere based on WO 93/04013. See the rejection for why the combination would have been obvious. Neither the statutes nor any case law requires that a primary reference contains motivation.

It is argued that the prior art does not point out the importance of the properties of the synthetic bone material. The relevance of this is not understood.

"The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. [Citations omitted]. These cases have consistently held that in such a situation, the applicant must show that the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Examiner notes no evidence of unexpected results has been submitted by Applicant. Pore size is also important in filters.

It is further argued that there is no suggestion of the binder ranges of claims 12, 13 and 35. As set forth in the 10/11/2002 Office action the amounts of the ingredients would have been an obvious matter of routine optimization. This is undisputed by applicant.

It is also argued the prior art does not teach bulk porosity of 70-90%. WO 93/04013 teaches a range of 20-95% (page 11, lines 7-8). It would have been obvious to have one a porosity within applicant's range – depending upon what the final product one desires.

It is argued that the '897 patent relates to jet engine ceramics that is a completely different technical field. And that one would not seek to improve a biomedical application ceramic by referring to a jet engine process. The rejection does not say such. The rejection is based on modifying on the WO 93/04013 process which is not limited to biomedical applications. A biomedical use is just an intended use. Besides, many biomedical applications require filters, such as filtering blood.

It is argued that the a foaming agent is not used in the presently claimed invention. This is not very relevant, the claims are comprising in nature and are open to using anything else – including foaming agents.

The comments regarding Wu have been noted, however the relevance is not pointed out. Nor is there any indication of any specific error in the combination of Wu. It appears that applicant's position is that Wu ball mills different materials from that of applicant. The relevance of this is not pointed out – one can always find difference between references and processes. That does not mean that they are irrelevant and uncombinable. Applicant does not point out any significance in the difference which would suggest that one could not combine the references. The same applies to the arguments regarding Nukada.

If applicant is trying to argue the references are nonanalogous art, examiner disagrees.

It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the references are in the fields of applicant's endeavor: ceramics and ball milling.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Hoffmann
Primary Examiner
Art Unit 1791

11/4/08

jmh